

# Collaborative teaching in flexible learning spaces: Capabilities of beginning teachers

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## **Abstract**

*Increasingly, New Zealand primary and intermediate schools are adopting the concept of flexible learning spaces and promoting team teaching approaches. Such open spaces and pedagogy can be challenging for even experienced teachers to adapt to. Is it realistic, therefore, to expect novices to work successfully in these challenging spaces from the onset of their teaching careers? Initial Teacher Education (ITE) programmes in New Zealand equip graduates with the knowledge and skills to plan, teach and evaluate learning for a diverse class of children with individual learning, social and cultural needs. However, while researching their own practice working within new spaces and pedagogy, some experienced Bay of Plenty intermediate and primary teachers articulated additional necessities for beginning teachers starting out in such complex teaching environments. Analysis of their ideas suggests such spaces require teachers to have particular capabilities if they are to work collaboratively in open learning spaces. This paper argues that ITE programmes and leaders need to be proactive and include appropriate theoretical and pragmatic coursework, to assist student teachers to cultivate the capabilities required of collaborative team members, by the time they graduate.*

**Keywords:** *Flexible learning spaces; collaborative teaching; collaborative capabilities; novice teachers; student teachers*

## **Introduction**

In an attempt to create “21st century learning environments”, primary and intermediate schools around New Zealand (NZ) have been proactive in transforming classrooms and curriculum delivery, by way of open learning spaces. As signified by other articles in this publication, over the last five years schools have upgraded school buildings by renovating or rebuilding teaching spaces in response to NZ Ministry of Education (MoE) advocacy and backing. The Ministry’s Four Year Plan 2016-2020 (MoE, 2016a) indicates a strategic intention for schools to move towards 21<sup>st</sup> century learning practices with funded infrastructure development. As well, that strategy aligns with a policy initiative “Communities of Learning” (CoLs / Kāhui Ako), encouraging schools to network and collaborate beyond their own physical confines, to exploit the wealth of educational expertise available within their district. This strategic and initiative situation has seen the emergence of open learning spaces in schools, known variously as *Open, Flexible, Agile, Modern, Innovative* and more latterly *New Generation* (Imms, Cleveland, & Fisher, 2016). However, the Ministry has a wider vision than just changes to buildings: “We want all schools to have vibrant, well connected, innovative learning environments that encourage and support many different types of learning ... the complete physical, social and pedagogical context in which learning is intended to occur” (MoE, 2016b, p. 1). More broadly, the Ministry’s vision aligns with an OECD (2013) notion that identifies such environments as ecosystems, involving learners, educators, families / whānau, communities, content, resources (property and technology) and being about “everything working together to support teachers and learners and ensure our young people are confident, connected, actively involved, lifelong learners” (MoE, 2017, p. 1). As Smardon and Charteris (2016) suggest, this comprehensive concept implies “education can take place anywhere, anyhow and arguably be delivered by anyone” (p. 24).

### **Previous open learning spaces**

While this vision is seemingly in contrast to the industrial-era model and practice of cellular / insular teaching that has prevailed across NZ schools for well over the last century, the MoE's current advocacy for physically open learning spaces is not new. In the 1970s, emulating developments in the United States of America (USA) and the United Kingdom (UK), a first wave of open classrooms became the vogue in NZ. Schools opened up spaces by dismantling walls between classrooms, and new buildings were designed and constructed to reflect a vision quite similar to the current one. The flexible, open space was intended to provide a learner-centred environment, within which teams of teachers could collaboratively integrate the curriculum, while individualising teaching practices to meet the learning needs of students (Whyte, 1995). Moreover, NZ teacher practice had evolved, "after due thought, experimentation and adaptation" representing what teachers regarded as "appropriate and proper" (Adams, 1975, p. 109); thus belief in the rightfulness of their practice meant NZ teachers continued to teach in the new open spaces as they had always taught in cellular classrooms. Similarly in the UK, studies of classrooms during that first era of open learning spaces (Pollard, 1985; Cooper, 1981) found that despite the rhetoric of buildings fostering interactivity and primary teachers' proclaimed enthusiasm for open spaces and changed methods, most teachers retained traditional and unchanged practice.

Thus, although small pockets of NZ teachers individually or in teams maintained learner-centred and / or collaborative practices in open spaces (Whyte & Knapper, 2013; Whyte with Charteris, 2008; Whyte with McGarvey, 1996), many repeated the overseas trend and reverted back to the security of cellular classroom teaching, actively supporting the restoration of previously dismantled divider walls and the re-creation of cellular classroom spaces. Wallace (1980), and Alterator and Deed (2013) suggest insular rooms appealed to these teachers for reasons of greater privacy, extra territorial control, and a more overt social order. The question then arises: can it be expected that the pattern of unchanged teacher practice in first wave open learning spaces will be replicated second time around?

### **Flexible learning spaces and team teaching**

On the surface, it would appear that in the current revival of open or flexible learning spaces, classroom issues for teachers remain relatively unchanged. For teachers whose experience has mainly been in cellular classrooms, adjusting to flexible learning space expectations plus "new and innovative teaching and learning approaches, to respond to the major shifts in the use of technologies and ways students are learning" (MoE, 2014, p. 1), can be just as overwhelming now as it was for teachers in the 1970s. Accustomed to "rituals of practice" (Fraser, Henderson, Price, Aitken, Cheesman, Bevege, Tyson, et al., 2009) as well as customs and conventions that are integral to their practice, many teachers are challenged by the expectations of collaborative team teaching that have accompanied the development of flexible learning spaces. Moreover, Alterator and Deed (2013) indicate that deprivation of privacy and feelings of over-exposure can impact negatively on teacher performance and increase stress levels. Conversely, their finding of a spectrum of responses by teachers (conflict, resistance, adaptation or change) indicates that teacher reaction to a different learning environment has the potential to be positive.

The NZ MoE's (2016b) Flexible Learning Spaces webpage, to date, contains self-reported cases from a variety of NZ schools that indicate many teachers have been able to successfully adapt and change their practice to accommodate the new learning spaces created in their schools. One Bay of Plenty school (Whyte, House & Keys, 2016) observed that negotiating reaction and supporting the change process took considerable time, but that collaborative team effort focused on building teacher capacity and genuine collaboration had positive results. However, apart from NZ academic research that considers what and how such pedagogies can look like, and how they are implemented

and enacted (Benade, 2017), plus workshops conducted in schools by local experts, there appears to be a dearth of NZ-sourced literature on what can be done to assist NZ teachers to adjust their cellular practice to flexible learning spaces.

Australian researchers, Imms, Cleveland and Fisher (2016), consider new open spaces as disruptive interventions that displace, rather than replace, teachers. They contend that a carefully considered, evidence-based evaluation of the emerging issues of open learning spaces needs to focus more on the reality rather than the intended use of such spaces: and they provide a series of “snapshot” cases as examples of issue management. Moreover, Canadian researchers, Sharratt and Planche (2016), have recently developed a comprehensive, research-based practical resource of definitions, examples and tools, to assist educators to reflect deeply and act on the trials and tribulations arising within collaborative learning environments. Thus, although flexible learning environments have and continue to present spatial and pedagogical challenges for NZ teachers, schools are now able to draw on limited overseas literature, in addition to support and ideas from each other.

### **Flexible learning spaces, team teaching and beginning teachers**

If experienced teachers find flexible learning spaces testing to adapt to, how realistic is it to expect novice teachers to work successfully in these spaces from the outset of their careers? In general, undergraduate Initial Teacher Education (ITE) programmes in New Zealand prepare graduates with the knowledge and skills to plan, teach and evaluate learning for a diverse class of children with individual learning, social and cultural needs. In the past, this has been sufficient to enable beginning teachers to provide adequate learning programmes on a 1-28 teacher / student ratio within cellular classrooms. But is mentor-teacher support and two half days per week teacher release during the probationary two-year period sufficient to allow beginning teachers to acclimatize to collaborative team teaching in flexible learning spaces?

Within ITE programmes, the most obvious benefit comes from beginning teachers having practical experiences in flexible learning spaces during their studies. Such experiences need to be intentionally provided, otherwise the vagaries of practicum allocations can mean that student teachers complete their teaching qualification having only experienced cellular classrooms. ITE programmes usually provide practicum experiences of full-time weeks in schools where student teachers teach alongside experienced teachers. Supplementing this approach is the University of Waikato’s (UoW) Collaborative University Schools Partnership (CUSP), which involves groups of first year student teachers spending an additional day a week in nominated CUSP schools during their first year of study. Each CUSP student is assigned to a mentor teacher for the year and takes part weekly in that mentor’s learning space. Where the learning space is taught collaboratively, the CUSP student gains insight into the pragmatics of team-teaching. For some, there is also an opportunity to learn about the transitions experienced by teachers when teaching teams are temporarily located in spaces such as school halls, and then move to their new learning environment once this is renewed or rebuilt. Alterator and Deed (2013) surmise that “a teacher’s practical knowledge emerges from and is specific to a certain context . . . and a lens for interpreting experience” (p. 318); thus a CUSP student placed with a mentor in a flexible learning space is provided with an additional lens to interpret the experience of teaching collaboratively. Ideally, all student teachers would have access to flexible learning spaces at some time during their practical in-school experiences, but consistent weekly exposure would be even more valuable. The UoW is extending CUSP provision into the second year of the B.Tchg degree programme by 2018, but the most benefit to student teachers would come from a policy that ensures all student teachers are placed for weekly participation with a mentor in a flexible learning space, at least once during their two CUSP experiences.

A similar corollary is that once student teachers graduate and become beginning teachers, they are buddied up to team-teach in well-run, flexible learning spaces alongside experienced mentor teachers. The management team at Te Puke Intermediate School (TPIS) in the NZ Bay of Plenty region, found this to be a productive approach to beginning teacher induction, especially in the light of major spatial and pedagogical changes within their school. As a result of those changes and the school's professional learning programme, a senior teacher at the school was motivated to research and articulate his revised practice. As well, he was the mentor for a beginning teacher in his teaching team, who was a graduate of the same UoW ITE programme in Tauranga that he had attended. Moreover, both teachers remained in contact with the coordinator of that programme (the author of this article) who had recently assisted a Bay of Plenty school to research and report on its flexible learning space practice (Whyte, House & Keys, 2016). As a consequence of these serendipitous connections, a professional learning collaboration formed in 2016 between the two TPIS teachers and the ITE programme coordinator. The aim was to discuss the learning centre practice of the former, following observations by the latter, in order to articulate an illustrative example of the collaborative practice of an experienced and novice teacher within a flexible learning space. What follows is an overview of TPIS's move to flexible learning spaces and collaborative teaching, followed by a descriptor of a beginning teacher's experience of being buddied up to team-teach in a well-run, flexible learning space alongside an experienced mentor teacher.

### **Te Puke Intermediate School**

Five years ago, student disengagement, behaviour and attendance, and lack of achievement (one in five students identified in National Standards as “below” or “well below”) were major issues for the school. Following consultation between the Board of Trustees, community, staff and students; visits to other schools; and a pilot-week trial, the school made the decision to transition to a Learning Centre approach over a 3-year period. As a result of research, observations, and staff, student and community feedback, five learning centres were formed according to determined interests and learning needs of students. The centres and their learning contexts include: 1) *Te Korowai Mātauranga*: students who enjoy learning through Te Ao Māori, that is, tikanga, kawa, and te reo Māori; 2) *Excel*: self-motivated learners enjoying choice over their own learning; 3) *Explore*: a rich and engaging learning environment where students are encouraged to become self-managing, life-long learners; 4) *Energise*: students committed to regularly building and developing new sports skills and fitness; and 5) *Expressive*: creative individuals who love to perform and express individual talents.

When students from contributing schools complete their enrolment forms, they nominate the Learning Centre they prefer; with the suitability of this choice confirmed in a three-way interview between each student, their whānau, and a member of the school management team. All students get their first choice, teachers identify their own strengths and areas of interest, class sizes are considered, and from there the Learning Centres are formed. Students can change their Learning Centre at the end of Year 7 but generally opt to stay in the same centre in Year 8, which means they play a role in helping to initiate and transition new Year 7 students to their centres.

The main goal of the Learning Centres is to deliver the curriculum through a context that is engaging for the learners. The whole curriculum is taught by each Learning Centre through its individual context, within renovated flexible learning spaces. The identity of each centre has been created by a specific description, student profile, set of criteria, logo and motto. One exemplar of these identities, illustrative of the five Learning Centres, comes from the Learning Centre *Explore*, detailed in Figures 1 and 2 (adapted from Te Puke Intermediate, 2016).

Teachers plan together in their learning centres (LCs) and all contribute to a termly unit plan

Google platform is predominant in all learning centres

At TPIS each learning centre is encouraged to utilize our Flexible Learning Environment effectively. Collaboration is an important part of this.

Explore has four classes, but we operate as two: (2 x 2 mirrored set-up)

Five vertical groups per class

Five Mathematics stations; five Literacy stations

All other curriculum areas taught collaboratively also

Five locations that are identical on both sides of the learning centre

Figure 1: An example of *Explore* teaching team's conceptualisation of collaborative planning

Learning Commons: each of two homeroom spaces has five named areas. Workroom; The Benches; The Boardroom; The Commons; Pew with a View

All staff teach homeroom students, assess homeroom students

Learning Rotation / Vertical Groups approach. Two rotations per block

Students self-manage transitions, assisted by music cues and two teacher-made Rotation Wheels (1 Maths, 1 Literacy) that indicate tasks and locations, including teaching workshops

Figure 2: Key points about *Explore* practices & Vertical Groups

### A beginning teacher's experience

Shannon, a beginning teacher, first experienced team-teaching in *Explore* in 2016, alongside her mentor teacher Stephen and two other experienced teachers, Leaia and Leonie. This section illustrates how elements of *Explore* became affordances that facilitated Shannon's adaptation to collaborative teaching in flexible learning environments.

Following a three year period of thorough school-wide planning and preparation, Stephen and Leonie began pair-teaching in an open space in 2015. Through exploration and experimentation, they developed a working knowledge and understanding of how to teach collaboratively within a flexible learning environment. At the end of that year, the move was made to develop larger collaborative teaching teams within the recently-renovated open spaces.

The *Explore* learning space programme (as observed by the author in Term 3, 2016) saw approximately 120 students evenly divided across two homeroom spaces (two teachers in each) on either side of the renovated open space (previously four separate classrooms). The homeroom spaces are a mirror / reflection of each other but have their own character and style. Student backpacks are stored in closed-door cupboards and each student has a named tote tray for stationery items within the homeroom spaces. When I visited, my general impression was one of space, relaxed teachers, and optimistic students. Students sat on the carpet for the day's introduction, while the pairs of teachers collaboratively detailed how the day would unfold. The parameters of the vertical grouping learning rotations (two to each block) were reiterated and students then moved to their first rotation task. Most knew where they should be, however one or two consulted the Rotation Wheel

(see Figure 2) to check their location. Shannon contributed equitably and with confidence to the discourse and questions.

Long term teacher planning was collaborative and detailed, with each teacher's weekly planning for designated vertical groups a response to regular assessment and flexible grouping strategies, determined by collaborative decisions from data about individual student learning needs. The four teachers taught a group each, as a component of the rotation; setting learning intentions / success criteria with the students and using powerpoints and/or modelling books. A Visual Learning Board displayed on a wall in the learning space differentiates students with codes rather than names, so students can personally track their learning progress according to National Standards. Each student has a print copy of the eASTTLe rubric that is used to goal set.

The four teachers maintain ongoing monitoring of all groups and, when their Deliberate Teaching groups are fully focused on a task, take the opportunity to move around the space to check up on students in each learning task area and monitor on-task behaviour. All four teachers appear to know what each of the 120 students should be doing. There is consistency with behaviour management across the four teachers; the learning programme being closely interwoven with the school's extensive behaviour management programme.

As a beginning teacher, Shannon adapted to collaborative curriculum teaching layered with behaviour-management systems, through the role-modelling, expertise and support of the *Explore* teaching team. The TPIS model resonates with Benade's (2017) recent key findings about teachers and collaborative teaching in flexible learning spaces: active teaching and instruction is still important; differentiated "workshops" can be framed around "must do" activities and small group rotations; the need for a "resident expert"; integrated, holistic, and highly organised teaching is effective; monitoring and supporting students is important; and teacher collaboration and reflective practices encompass respectful relations coupled with firm expectations (Benade, 2017, Powerpoint slide 20).

By the time of this observation of *Explore* in Term 3, Shannon and Stephen had worked through location issues arising from teaching in a shared homeroom space and reflected on their progress from staff and students regularly being in set areas, to everyone now working across the entire open space. Integral to this development of spatial use or "spatial literacy" (Imms et al., 2016, p. 6), Shannon and Stephen acknowledged the importance of maintaining uniformity within and across the two teaching pairs when managing student learning and behaviour; and appreciated the need to firmly establish this consistency right from the onset of the year. They recognised, however, that there are times when a wall can be useful, an example being the teaching of more intimate topics such as "Keeping Ourselves Safe" and "Positive Puberty". Because the team of four enjoyed working together and "bounced off each other", they believed they actively modelled working collaboratively to the students and this generated a positive vibe that flowed through the entire *Explore* Learning Centre.

Reflecting on their collaborative practice, on the one hand, the team noted that it is common for Year 7 and 8 student behaviour to challenge teachers at times, therefore it is crucial that coherent learning and behaviour systems need to be in place and enmeshed together if an open environment is to work effectively. On the other hand, they also appreciated that flexibility is a capability they all need, if they are to work collaboratively as a team in such an environment. In their sense-making of how to work together compatibly in an open space, the *Explore* team are developing what Sharratt and Planche (2016) identify as "collabor-ability" (p. 54). The same authors also contend that "making sense together must be non-judgemental, non-accusatory, and non-evaluative. . . . Engaging with others as co-learners must be a highly respectful, intentional process" (Sharratt & Planche, 2016, p. 43).

### **Capabilities for working in flexible learning spaces**

While a logical implication arising from the concept of flexible learning spaces requires beginning teachers to develop the capability of "flexibility", engaging with others in the "respectful, intentional process" noted above implies interpersonal capabilities are also needed. Clarifying the difference between capability and competency,

Hipkins (2013) perceives capability as “openness to ongoing possibilities” whereas a competency is something that people possess, or aim to gain. While reflecting on their own practice and experience of having a beginning teacher in their midst, the *Explore* team expressed their belief that novice teachers need to be adaptive, flexible and relational if they are to work collaboratively in flexible learning spaces. Maiers (2008) observed that “adaptability is more than just serving change; it is using change as a growth opportunity” (p. 8). Moreover, Alterator and Deed (2013) noted that “open plan learning environments alter the learning landscape and culture to the extent that adaptability is not simply preferred; it is necessary” (p. 327). Within the TPIS flexible learning space, beginning teacher Shannon increasingly demonstrated necessary adaptability through experiential learning and perceiving the open space as a learning growth opportunity.

While experience does not always equate to learning, Shannon quickly showed a willingness to adapt to and maintain the organizational, pedagogical and behaviour management expectations of the team and the school. She also showed herself to be flexible, by developing and applying spatial literacy in order to comfortably work across the entire open space, as well as cultivate the capacity to actively respond to the organisation and learning needs for all the students in *Explore*. When, in Term 4, the team decided to vary the Taskboard rotation system and delve into a full-blown curriculum integration approach (Beane, 1995; Brough, 2008; Dowden, 2012), Shannon flexibly accommodated and actively participated in that change of routine. Moreover, she engaged inter-personal capabilities in informal and formal learning progress discussions with students, whānau and colleagues, to meet school requirements and expectations; as well as intra-personal capabilities, by demonstrating resilience and gaining confidence in her own ability to effectively contribute as a team member in the *Explore* learning space. While it might be argued that the appealing, collaborative atmosphere in *Explore* enabled Shannon to exhibit adaptive, flexible, and relational capabilities, her expressed excitement, enjoyment and captivation in being part of that Learning Centre suggests those capabilities of adaptability, flexibility and relationality were perhaps personal dispositions when she first stepped into *Explore*.

### **Other voices from the field**

At the same time as the *Explore* team were reflecting, four team leaders at another Bay of Plenty school were similarly researching their practice and inquiring into their personal experiences of collaborative teaching in flexible learning spaces. The transition of Welcome Bay Primary into collaboration and flexible learning spaces is reported elsewhere (Whyte, House & Keys, 2016); however the capabilities their team leaders determined essential for experienced teachers resonates with those the *Explore* team identified for beginning teachers. Analysis and synthesis of the elements proposed by these primary school team leaders suggests their ideas could be accommodated within the same three capabilities: adaptive, flexible, and relational (inter- and intrapersonal).

#### ***Adaptive***

The importance of applying yourself as a member of a team (more so than in a single-cell classroom).

If you're not doing your bit then you're letting others down and a non-team person can be a challenge for others.

Ownership of own teaching resources no longer applies as you need to share everything.

Not having 4 walls around you, so having to be open to observations by others. Being consistently “collective” rather than “individual”.

Maintaining a positive outlook to change (there will be lots and lots of it).

***Flexible***

Being courageous to be flexible (to stand up for your own values).

Consider “we’re all in this together as professionals” but being prepared to identify what you’re prepared to leave behind: ie give up some of yourself because “little things can be deal-breakers”.

Being prepared for “give and take” on processes.

Remembering the bottom line is being here for kids, so consider the impact on them.

Standing up for opinions and beliefs, but doing some things for the sake of the whole.

Being resilient and keeping on at problem-solving.

***Relational (inter-personal)***

Talking: lots of it (about “selves” – not just about the children).

Having the capacity to work with others.

Having professional trust and integrity so that what you’re saying is honest (ie “cards on the table”) and then all work towards that.

Being open to new ideas and knowledge from others.

***Relational (intra-personal)***

Taking feedback without becoming negative.

Developing negotiation skills.

Being reflective and self-reflective.

Cultivating your sense of humour (because some days you just want to cry but need to laugh).

Developing thick skin and not taking things to heart.

The elements of capabilities for collaborative teaching illustrated in the primary school team leaders’ views above, reiterate Hipkins’ (2013) concept of capability because they reflect the notion of process rather than product. O’Neill, Hansen and Lewis (2014), reporting on a search of the literature about dispositions to teach, found that there is no common definition of dispositions across the literature but there is a prevalent belief that effective teachers need more than just knowledge and skills: they need to know how to sensitively apply and enact their knowledge and skills to meet student learning need. So while it is possible for Initial Teacher Education programmes to develop student teacher competencies by teaching them to know about diverse strategies for teaching and evaluating student learning across a range of curriculum learning areas, it is more the student teacher’s capability to effectively apply those competencies that matters.

It was evoked earlier, that beginning teacher Shannon may have already possessed dispositions towards the three capabilities her colleagues regarded as necessary for collaborative teaching in open spaces. In discussing the latter, Alterator and Deed (2013) state that “teacher learning is a function of rich interactions between context and a teacher’s disposition to learn about their practice” (p. 318). Even though Thatcher (2013) felt learning dispositions could be developed through use of a structured open-ended inquiry process, it is likely that if dispositions are inherent, they are probably not teachable. Perhaps then, consideration of capabilities might be a more practical way to assist student teachers during their degree studies. The three capabilities determined by the *Explore* team at Te Puke Intermediate School, plus analysis of the elements of capabilities provided by Welcome Bay School team leaders, provide useful trigger ideas from which the following pragmatic suggestions for ITE programmes have been synthesized.

## Implications for Initial Teacher Education programmes

### *Adaptive capability*

Key underpinning concept: *Know who you are - who you are as a person is who you are as a teacher.*

O'Neill et al. (2014) identify in their report that it is important for ITE programmes to assist student teachers to both: “examine and challenge their existing, taken for granted beliefs” (p. i) and “explore beyond the comfort zone of the cultural status quo” (p. iv), at an early stage of their degree. To their credit, ITE programmes already provide contexts for these to occur by ensuring student teachers unpack who they are as people through explorations of their backgrounds, values, beliefs, aspirations and goals; and revisiting these explorations as their studies progress, to ascertain influential ideas and experiences that have affected change in their thinking. Collaborative portfolio processes (Wray, 2007), especially when used collaboratively, can provide a useful approach to help student teachers meet Record of Learning obligations for teacher registration / certification with the Education Council of Aotearoa NZ (EDUCANZ).

O'Neill et al. (2014) also note there is merit in ITE providing “mentoring and customised practicum experiences” (p. iv). A context that aligns with this recommendation is the framework provided by the earlier-mentioned CUSP project. Sharratt and Planche (2016) identify that “modeling a ‘co-learning stance’ builds credibility and commitment” (p. 67), so not only do student teachers benefit from this weekly time in school working alongside expert teachers, there is “co-learning” by school and university staff. School staff have access to student teacher weekly topics of study and can build on the key points raised in the academic setting by making links to practices as they occur in the learning space. Concomitantly, liaison staff from the university observing student teachers develop within these learning spaces (the author has first-hand experience of this role) keep abreast of what is happening in schools, and can similarly help student teachers make connections between learning space experiences and academic theory. Additionally, Alterator and Deed’s (2013) research found that teachers appreciated how new open spaces provided for easier interaction with colleagues: “teachers reported a greater level of support from their colleagues as a result of the fluidity of the space” (p. 323). Student teachers witnessing and being part of informal professional development interactions would therefore be helpful. Add in the advantage of student teachers being placed in flexible learning spaces with collaborative teaching during CUSP, and the developmental opportunities for learning space adaptive capabilities are multiplied.

Moreover, the context of regular practicum experiences in effectively-run open learning spaces; that is, actually doing collaborative curriculum teaching and student management alongside experts can reap similar benefits for student teachers’ adaptive capability. Alterator and Deed (2013) reiterate that a vibrant amalgam of formal and informal practical knowledge about teaching and learning can develop from the knowledge teachers generate through reflective questioning of their lived experiences, therefore maintaining and sharing a reflective portfolio (perhaps in the form of a Google Doc) during practicum could add productivity to the experience for both student teachers and associate teachers. Alterator and Deed (2013) also note that the process of making sense of practice is an immediate and “relentless activity” (p. 319); however Roth (2002) observes that it is near impossible for novice teachers in new situations to reflect and deliberate in a busy classroom environment; instead they have to live “in the heat of the moment” but also need to know how to manoeuvre or manipulate that moment. Roth believes these skills are only arrived at by working in a classroom alongside knowledgeable others and later talking through the day and events. This emphasises the importance of student teacher practicum experiences in collaborative and flexible learning spaces to learn and talk with experts.

### ***Flexible capability***

Key underpinning concept: *Know what you stand for, and what you can't stand.*

Referring to school students and explaining how to start thinking about working in ILEs, Silcock (2016) stated: “We can begin the process by designing for predictable variability. This means that we know that there will be a diverse range of unique learners, each with their own strengths and challenges” (p. 1). A similar statement of predictable variability and unique teachers applies equally to collaborative teaching teams in flexible learning spaces. Having pairs, trios or quads of teachers working closely together within one open space (that is, a mass of different personalities, beliefs, values, expectations and teaching styles), is undoubtedly a situation with potential for tension, but also growth. Wylie (2011) utilised the term “joint work”, when perceiving teacher professional collegiality as a process of co-participation that involved “reflective inquiry, criticism, and learning” (p. 5); while Sharratt and Planche (2016) used the term “co-laboring” to describe collaborative teaching. Teams that have been provided with opportunities to talk through their beliefs, values and expectations have been able to establish how they want to go about that “joint work” or “co-laboring” before they launch into collaborative teaching in open spaces. However those initial discussions are only the beginning; “talking through” is a necessary on-going, continual and daily process.

A “Case Management Approach” (Sharratt & Planche, 2016) of weekly teacher and fortnightly senior management discussions of student data, contributes to a school’s ability to meet student learning needs, but also the value of “talking through”. Teachers share evidence of focus student progress; explicit teaching strategies and ideas are shared; contributing to student learning but also growing the knowledge and pedagogy of teachers. All teachers in a team become instructional coaches, sharing what has worked, what hasn’t, and suggesting what to try next. Similarly, a senior management forum provides opportunity for open, honest talk and sharing, about what teaching instruction works and what doesn’t work.

ITE programmes could provide student teachers with opportunities to witness such teacher discussions; by way of actual observation, or by viewing of example movie clips. Likewise, equivalent student teacher collaborative inquiries could elicit valuable practice for “open and honest talk” in the same way. Wray (2007) advocates the use of a student teacher collaborative portfolio approach, where portfolio entries are shared and reflected on by a group of students and staff, as another way of eliciting such “open and honest talk”. All the above strategies can assist with the development of student teacher “flexibility capabilities”.

### ***Relational capability***

Key underpinning concept: *Know how to receive and give messages respectfully.*

#### *Interpersonal and intrapersonal skills*

The importance of high quality interpersonal communication is a recurring theme in almost all the research literature on teachers working collaboratively in flexible learning spaces. Alterator and Deed (2013) indicate that teachers in an environment where expectation and pressure is high, require the development of inter- and intra-personal skills (pp. 326-327). Sharratt and Planche (2016) reiterate the importance of being mindful of assumptions; but also knowing how to: be an active listener; paraphrase what others are saying; summarise discussion points; and synthesize points so a team will move to accountable action. Student teachers are in just as much need of coaching in these matters to enhance relational capability, as are experienced teachers.

Woolner, McCarter, Wall and Higgins (2017) suggest “theories of participation may help in making sense of collaborative relationships ... [because] such theories value partnership as embodying genuine participation” (p. 56). Thus inclusion of participation theories into student teacher coursework could enhance student teacher theoretical understandings of collaboration, which should help shape their relational capability.

Answers frequently demanded by teachers starting out in collaborative and flexible learning spaces, include how to manage complex interpersonal conversations (for example, difficult / challenging communications) and constructive criticism. O'Neill, et al. (2014) advocate for “programme-wide” and “programme-deep” strategies to ensure that student teachers develop appropriate understandings, strategies and commitments (pp. v-vi). Basic strategies already in place across many tertiary providers include how and when student teachers could use I-messages or I-statements with students in learning spaces. Equally, the same strategies could be used effectively with teaching colleagues.

Student teachers' relational capability would be enhanced by having undergraduate access to content from coaching, negotiation and effective interaction courses that is usually only offered at postgraduate level.

## Conclusion

As Woolner et al. (2017, p. 57) have captured so effectively:

Experience demonstrates that change does not always flow through a system and suggests that the nature of the actors' participation in the process of change is important. It seems likely that a key to enacting sustainable educational change lies in facilitating collaborations and discussions so that changes to space and organization are coupled to changes in teaching and learning practices and based genuinely on the development of shared understandings of all those involved.

In its four year plan, the NZ MoE has clearly signaled a continued focus on the development of flexible learning spaces and team teaching (MoE, 2016a). ITE providers can play a positive part in endorsing these spaces and pedagogies, so they have a greater chance of successful uptake this time around than in the 1970s. However, there is a sense of urgency; something needs to be done sooner rather than later, to pre-empt a next generation of teacher-resistance. Future-focussed ITE providers can assist the development of the necessary “shared understandings of all involved” advocated by Woolner et al., through ensuring student teachers have appropriate content and practice during their degree programmes to feel comfortable in these environments. To grow into beginning teachers who can team-teach effectively in open learning spaces, student teachers need to feel at ease with these environments. To gain this confidence, student teachers need to participate in ITE programmes that are proactive in nurturing their adaptive, flexible and relational capabilities. To this end, it is an ITE leadership responsibility to ensure the professional formation of teachers who are able to function and flourish in flexible learning spaces.

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